



Cosmic Chemistry: Cosmogony

References, Resources, URLs, and CD ROMs

The following Web sites, books, periodicials, and media are helpful for additional research into cosmogony.

URLs

http://einstein.stanford.edu/

Excellent q&a source about relativity, etc.

http://imagine.gsfc.nasa.gov/docs/features/news/grav_lens.html

Explanation of gravitational lensing.

http://near.jhuapl.edu/Education/lessonDoppler

Near Mission Lesson Plan on the Doppler Effect.

http://particleadventure.org/

Learn about the fundamental building blocks of atoms: quarks and leptons. Here's an interactive learning tool that contains a Quicktime movie introduction and tutorials on the evidence that physicists have found to support the Standard Model of the Atom.

http://www.aastro/queensu.ca/~dursi/dm-tutorial/dm0.html

This Canadian site offers information about several cosmological theories, and also has a detailed section on dark matter.

http://www.arachnoid.com/sky/index.html

Oblers' paradox.

http://www.genesismission.org/educate/scimodule/PlanetaryDiversity/index.html

Cosmic Chemistry: Planetary Diversity module.

http://www.genesismission.org/educate/scimodule/SunandSolar/index.html

Cosmic Chemistry: The Sun and Solar Wind module.

http://www.glenbrook.k12.il.us//gbssci/phys/Class/circles/u6l3a.html

Text on universal gravitation.

http://www.learner.org/exhibits/parkphysics/index.html

Amusement park physics.

http://www-spof.gsfc.nasa.gov/stargaze/Sgravity.htm

Text on Newton's theory of "Universal Gravitation."

http://zeta.lerc.nasa.gov/mini/minit.htm

Drop tower and microgravity.

BOOKS

Aczel, A. D. (1999). God's Equation, Four Walls Eight Windows. New York.



Adams, F. & Laughlin, G. (1999). The Five Ages of the Universe. New York: The Free Press.

Asimov, I. (1985). The Exploding Suns. New York: Truman Talley Books-E.P. Dutton, Inc.

Barrow, J. D. (1994). The Origin of the Universe. New York: BasicBooks.

Chaisson, E. (1981). <u>Cosmic Dawn</u>. Boston, MA: Little, Brown & Company. [An interdisciplinary tour of 15 billion years of cosmic history, drawing on every field of modern science—astronomy, physics, chemistry, biology, geology, anthropology, and sociology.]

Darling, D. (1989). <u>Deep Time</u>. New York: Delacorte Press. [Ride with a proton backward and forward through time and space to visualize the birth of stars and the construction of the galaxies—and finally Earth.]

Davies, P. (1981). The Edge of Infinity. New York: Simon & Schuster.

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Epstein, L. C. (1997). Relativity Visualized. San Francisco, CA: Insight Press.

Ferris, T. (1988). Coming of Age in the Milky Way. New York: William Morris and Company, Inc.

Ferris, T. (1997). <u>The Whole Shebang</u>. New York: Simon & Schuster. [The author uses analogies in his nontechnical overview of current research and visionary account of the near-future of our universe.]

Fritzsch, H. (1984). <u>The Creation of Matter</u>. New York: Basic Books, Inc. [A very readable, engaging, comprehensive account of a modern cosmological view of the universe. Many first-year chemistry or physics students would enjoy this scenario which includes a "magical oven" and a "dialogue with a quark".]

Fritzsch, H. (1983). Quarks: The Stuff of Matter. New York: Basic Books, Inc.

Goldsmith, D. (2000). The Runaway Universe, Perseus Books, New York.

Green, Brian. (no date given). The Elegant Universe. (no publisher given).

Gribbin, J. (1998). In Search of the Big Bang, 2nd Ed. New York: Penguin Books.

Gribbin, J. (1992). <u>Unveiling the Edge of Time</u>. New York: Three Rivers Press.

Guth, A. H. (1997). The Inflationary Universe. Reading, MA: Perseus Books.

Hawking, S. (1996). A Brief History of Time. New York: Bantam Books.

Kilmister, C. (1971). The Nature of the Universe. New York: E.P. Dutton, Inc.

Lederman, L. M. & Schramm, D. N. (1995). From Quarks to the Cosmos. New York: Scientific American Library.

Lerner, E. J. (1991). The Big Bang Never Happened. New York: Vintage Books.

Lightman, A. (1991). Ancient Light. Cambridge, MA: Harvard University Press.

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Peacock, R. E. (1990). A Brief History of Eternity. Wheaton, IL: Good News Publishers.

Rees, M. (1997). Before the Beginning. Helix Books.

Ronan, C. A. (1994). <u>The Universe Explained</u>. New York: Henry Holt & Co. [Heavily illustrated introduction to the terminology and concepts of the universe.]

Rubin, V. (1997). <u>Bright Galaxies, Dark Matters</u>. Woodbury, NY: American Institute of Physics Press. [The last section of Vera Rubin's book, <u>Bright Galaxies, Dark Matters</u>, entitled "The Astronomical Life: Women in Science and Other Heroes, Colleagues and Friends," would make very interesting reading for students considering a career in astronomy or cosmology. The section includes personal interviews, copies of correspondence, and short biographies of many outstanding scientists.]

Trefil, J. (1988). The Dark Side of the Universe. New York: Charles Scribner's Sons.

PERIODICALS

Pearlman, H., Stocker, D., Gotti, D., Urban, D., Ross, H., Sours, T. (1992). The Physics Teacher, 34, 340.

Sawyer, K. (1999). Unveiling the Universe. National Geographic Society. 196, 8.

VIDEO

"Creation of the Universe" Item No. A1238, PBS Direct, 1320 Braddock Place, Alexandria, VA 22314.